

Spontaneous Migration and Settlement Patterns: A Study of Upland Village in Central Sulawesi, Indonesia 1985 - 2017

Melani Abdulkadir-sunito^{1*} Soeryo Adiwibowo¹ Endriatmo Soetarto¹ Rilus A. Kinseng¹
Sean Foley²

1. Department of Communication and Community Development Sciences, Bogor Agricultural University, Jalan Kamper Kampus IPB Darmaga, Bogor 16680, Indonesia

2. The Samdhana Institute, Jalan Tampomas no. 33, Bogor 16127, Indonesia

Abstract

This paper discusses frontier agriculture migration and village transformation by describing how settlements are established and develop over time and analyzing factors that determine it. The study combined quantitative and qualitative methods of data collection, by conducting village-level population census and collecting village population registration, as well as observation, transect walks and interviews to elders and pioneer migrants. As within the last thirty years the population increased eight-folds and currently two-third of them are migrants, migration is an important factor of village transformation to focus on. However, with regards to settlement patterns, case of upland village Watumaeta indicates that its establishment and development is not only affected by size and period of migration, but also by local geography and history, incidents of conflict in the region, ethnic and religious affiliation, and migrants' crops of choice. The result of such intertwining factors is a village with clustered settlements based on ethnic and sub-ethnic groupings that give indication to a community with a weak social integration.

Keywords: Indonesia frontier migration; settlements structure; social integration; upland village

1. Introduction

Over half century after Kampto Utomo (1958) did his research on spontaneous migration to Way Sekampung in Lampung, migration to frontier agriculture areas in Indonesia are still continuing. Similar experiences of this inter-island movements, socio-economic impacts and village transformation were described in details in Sudagung's 1980s research on the Madurese migration to West Kalimantan (Sudagung 2001), the spontaneous migration strategies and settlement process in South Sumatra (Smith & Bouvier 1993), and the Balinese transmigrants to Luwu, South Sulawesi (Roth 2003). The difference in today's frontier migration from the past is that its occurrences are mostly to upland areas (Li 2005) with its objective is to cultivate non-staple crops (horticulture, rubber, coffee, palm-oil), and are an intra-island movement be it within Java or other main islands of Indonesia (Hoppe & Faust 2004; Weber et al 2007).

Watumaeta is a village in upland Central Sulawesi that experienced rapid in-migration. Between 1985 to 2017 the population of Watumaeta increased eight-folds from 365 to 2.909 persons, and its proportion of migrants increase from 12% into 66% (Abdulkadir-sunito 2004; Abdulkadir-sunito & Sitorus 2007; Abdulkadir-sunito et al 2017). A high share of the 1990s migrants are the regional migrants from South Sulawesi, whereas the more recent ones are the former 1980s Sundanese and Javanese transmigrants to Central Sulawesi.

With the rapid increase of migrants' population, an interesting question to ask is, how is settlements being established and develop through time? Whereas in physical aspect two types of settlements patterns emerge from pioneering activities – a 'corridor' form or a 'fishbone' form (Wunder 2004)¹, in sociological aspect two different patterns are observed: integrated settlement or separated one². The latter aspect may be influenced by size of migrants, or religion and other identity-based affiliation. Size-wise, a community with small number of migrants tends to have a more integrated interaction than communities with two sizeable groups (Smith & Bouvier 1993). Religion differences may distinguish and separate groups (Smith & Bouvier 1993; Hoppe & Faust 2004) and each ethnic groups may establish its own exclusive settlement, or form a same-ethnic group clusters within a mixed-ethnic hamlet – which then indicates an exclusive social life and a community with a weak social integration (Sitorus 2004).

This paper, however, is not primarily meant to discuss social solidarity and social integration, although it give hints to such evidence, or absence, through description of how settlements develop. The objective of this paper is to describe the settlement patterns as it establish and develop through time, how various migrant groups settle into and disperse within the village, and explain the intertwining factors that creates it..

¹ The 'corridor' form is created by spontaneous migrants settled around new (usually logging) roads; the 'fishbone' form is created by direct settlement programmes (as in transmigration) in which land is allocated to settlers in strips along a road or a settlement nucleus.

² This echoes Julius Isaac (1947, as cited in Sudagung 2001) idea on two pattern of migrants' settlement in new area: insertion and grouping. An insertion pattern is to settle person or family of migrants within the existing community. A grouping pattern is to settle migrant groups separate from old community, usually as an attempt to open new agriculture area.

2. Theory and Methodology

The paper follows the general environment-migration themes that understands places, landscapes and environments are shaped by human activity. Therefore, landscape reflects of the people who produce it. Human movement or migration can be seen as an “introduction of a different culture” in an area which then creates a complex area that superimpose an older landscape (Mitchell 2000). In this sense, a trace back to the historical development of a settlement and the ethnic structure of the local people in a region, Mitchell suggested, is an important action to articulate the (cultural) history of a landscape or a region.

Spatial organization, as Smith and Bouvier (1993) noted, is at the root of social relations between different groups – in this case, between local and migrants – living in the same place. Ethnic groups and networks, as well as social and economic interactions, influence spatial residential patterns within the villages (Weber et al 2007). Although it is meant to ease the newcomers into new place (Li 2007; Weeks 1978) and ensuring cultural and institutional support from others with similar background (Massey 2008), this separate spatial organization may leads to retaining social distance, retardation of migrants’ adjustment to new setting, low social interaction among different (ethnic) groups, and social segregation (Smith & Bouvier 1993; Weeks 1978; Sudagung 2001). It may also be interpreted as proof of the migrants’ inability to adapt and unwillingness to integrate into, or respect, the locals (Human Rights Watch 1998).

The research combined quantitative- and qualitative methods of data collection. The quantitative research method was to conduct village-level population censuses to gather information about household by ethnicity and migration patterns. The censuses were conducted at each RT (=neighbourhood unit) with the assistance of trained village administrators and enumerators in May 2001, September 2004, and in April 2017. Other population data compiled were the Village Monographs (1995 and 2000) and population registrations (1985, 1987, 1997 and 2010). The qualitative research methods comprise of observations, transect walks, and interviews. Focusing on village history and changes, key individuals (elders, *adat* leaders, and pioneer migrants) were interviewed. Most were interviewed more than once, as new questions in light of other people’s accounts need to be verified to establish accuracy (Creswell 1994). This circulatory way of interviewing was meant to “construct a general narrative” (Hefner 1990). Based on those interviews, observation, and population-by-ethnicity data, the development of settlements through time is drawn.

3. The Village Setting

Watumaeta is one of the village at the eastern-side margin of Lore Lindu National Park. Located some 102 km southeast of Palu, the capital city of Central Sulawesi province, Watumaeta is the Northern part of Pekurehua (or Napu) highland (*dataran tinggi*) at an altitude of 1.000 m asl. Watumaeta borders on the villages of Sedoa in the North, Alitupu in the East, and Wuasa in the South, whereas in the West it directly borders on the Lore Lindu National Park¹. The main road cuts across Watumaeta in three-way: to the North it passes Palolo valley into Palu; to the South it passes through other villages of Lore Utara district to Bada valley; and to the East into Poso, the capital city of *kabupaten* (regency) Poso in which Lore Utara district is part of. This road puts Watumaeta as an axis of Poso – Palu transportation.

A monument stands at the village center where the three-way road met, as a marker of the year the road Poso to Palu via Napu valley was connected in 1985. Next to this are the church of GKST (Church of Central Sulawesi), a state elementary school, as well as the *baruga* (Village meeting hall) and a football field. Most small shops are located between village center and the market at the road to Alitupu. Two mosques are also located at the road to Alitupu across the Lairiang river. Smaller churches and mosques can be found dispersed across the village. The bigger economic center – agriculture supplies, banking, visitors’ accomodation – are either in Alitupu or in Wuasa. Until 2008 electricity occur for six hours a day and a mobile-phone tower was set in 2009.

Geographically, most of the village land are flat with its West-to-East center lower than the rest. This lower area creates a permanently wet land that the villagers convert into *sawah* or wet-rice fields. The Lairiang river, fed by several tributaries in Mangkapa and Malanipa area, runs North to Southeast of the village and a steep hill of secondary forest bordering Watumaeta in its North to Northeast side.

Most of its inhabitants work in agriculture with a steadily growing employments in transportation and trading. A trend of diversification is also observed in agriculture: from rice in permanently wet area and maize or coffee in dryland, cacao came in mid 1990 and dominated the agriculture-landscape for over fifteen years, and recently this domination was taken over by carrots, tomatoes and other horticulture crops.

4. The Making of Watumaeta: First Settlers

The forest clearing and making of *kebun* (garden, dry fields) in Watumaeta dated back to the year 1929². Then,

¹ See Graph 1 to locate Watumaeta in relation to other villages, and the axis road.

² This part of village history is based on interviews with village elders from *Adat* Council, Village administrative and Village development

Watumaeta was a dense forest and a hunting ground of deers and boars for people of Wuasa, Sedoa and Alitupu (Togea 2002). The Kulawi people from the North of Napu were the firsts to do forest clearing. Encouraged by people of Sedoa they requested to, and was granted permission to clear forest by, the *magau* (Dutch appointed local ruler) of Wangsa. The cleared forest was along the Lairiang river from Mangkapa to Tambua, at km.101-102¹ to the Northside of the current village. The Kulawi people, however, did not stay long enough to work on their *kebun* as their main intention was to seek and catch waterbuffaloes, to be herded back to Kulawi.

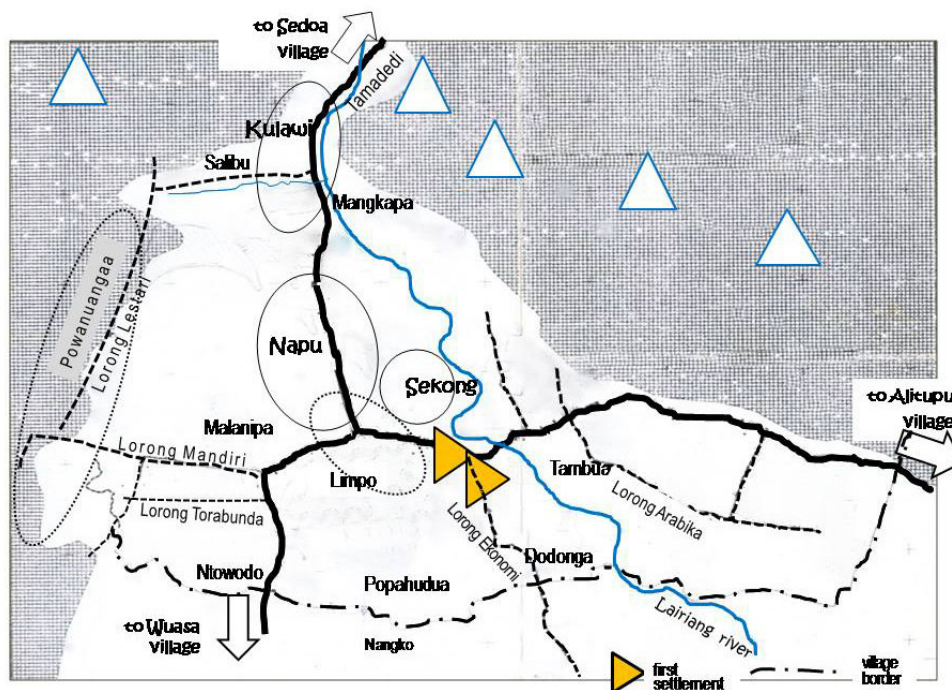


Figure 1. Local Name of Places superimposed by Current Main Road, Watumaeta

Following their steps were the Pekurehua (=Napu) families from Sedoa and Alitupu, who cleared up forest in km.102-103 of what is now village center and then planted *padi ladang* (dry-land rice). They worked in groups (*palus*), stayed in temporary huts from Monday to Saturday, and returned to their village to attend Sunday sermons. Later, this forest clearing was marked by settlers jointly planted Robusta coffee in Mangkapa, that then became a church-owned communal land (*tanah jemaat*).

In 1937-1938 came a group of men from Sekong in Toraja (South Sulawesi). They cleared forest along the flat land of Lairiang river, west of Tambua. They planted coffee while worked as wood-cutters, but their main aim was to own waterbuffaloes – an animal highly valued in their ceremonial culture. Once obtained, they herded the waterbuffaloes back to Toraja via Bada valley to the South. The locals learned from them how to make wood planks for house construction. The Torajanese, who were remembered as pioneering the construction of *sawah* (wet-rice fields) in Malanipa, left around 1940s during Japanese occupation. Their coffee garden was now gone, their houses superimposed by current settlements.

The first permanent houses was built by the above-mentioned Pekurehua families upon approval of the *magau*, between 1936 to 1939. The first *kampung* (settlement) was located at km. 103, in what is currently the *baruga* (Village meeting-hall) and football field. However, as it was frequently inundated by floods from Tawailia (or Tambua) river, in 1940 it was moved into the current village center (Togea 2002). The village name of Watumaeta came from the black stones (*watu* = stones; *maeta* = black) found in this river. The river itself were already dried down as its course changed eastward.

Another forest clearing was done between 1940 to 1944 by families from Wuasa in Limpo area to the South of monument at village center. These families also cleared up in the West side (km.103-104) South of Ntowodo, in an area of what is now called Powanuanga. They, however, did not cultivate it as this clearing was perceived as a reserve forest (*hutan cadangan*) for next generation use.

Watumaeta became self-governed in 1950, separated from Sedoa. Abu Togea, a village elder, recalled that in those days the village population was around 60 people of 20 households. In 1956 after the first elementary school was built, there was in-migration from relatives who resided in Kulawi and Lindu (Northwest of Watumaeta) that added up population to about 160 people. In 1970s, there were 84 households of about 200

council (BPD) during fieldworks in 2001, 2002 and 2004

¹ Km or kilometer is counted as distance from Palu, the province capital at North.

people.

Between 1952 to 1955, a large plot of *sawah* (wet-rice fields) was constructed in Malanipa and Limpo, to the South of village center. The rice fields was made with the help of Sedoa people who assisted in *baparuja* or plowing the soil using herds of water buffaloes. Sedoa people lives in a flat plateau thus accustomed to wet-rice cultivation whereas people of Watumaeta and Wuasa were more into dry-land rice (*padi ladang*). It was only after *sawah* produced harvest that people invest on ploughs, cows and water buffaloes to better cultivate the fields.

5. Trans-Sulawesi Highway and Cacao: the Waves of Bugis Migrants

A long history of economic relation between Napu highland to lowland has existed since the early 20th century. Villagers traded *damar resin*¹, coffee, kidney beans and potatoes to Bugis traders in Sedoa, who then use horses to carry the commodities down to Poso, some 80 km to the East. The Napu people also carried by themselves the agriculture products to the markets in Poso area to trade them with daily needs of salt, oil, tobacco, and other necessities. In those days Palu can be reached through Kulawi and Lindu regions, through northwestern hilly range – a more arduous travelling.

In 1980, the breakthrough of logging roads at Padeha, a location with steep hill outside Sedoa, effectively connecting Napu to the lower valley of Palolo and onto (province capital of) Palu. This was hugely celebrated as prior to that time Sedoa was seen as *kampung buntu* (=dead-end village), a term attributed to a village is seen as unable to accelerate its development because there is little connections to other places. In mid 1980s the road connecting Napu to (regency capital of) Poso, and Napu to Palu was asphalted. This part of Trans-Sulawesi highway that connect North-to-South the main cities in Sulawesi facilitates the spontaneous migrants from South Sulawesi in their search for new lands in the highland of Central Sulawesi.

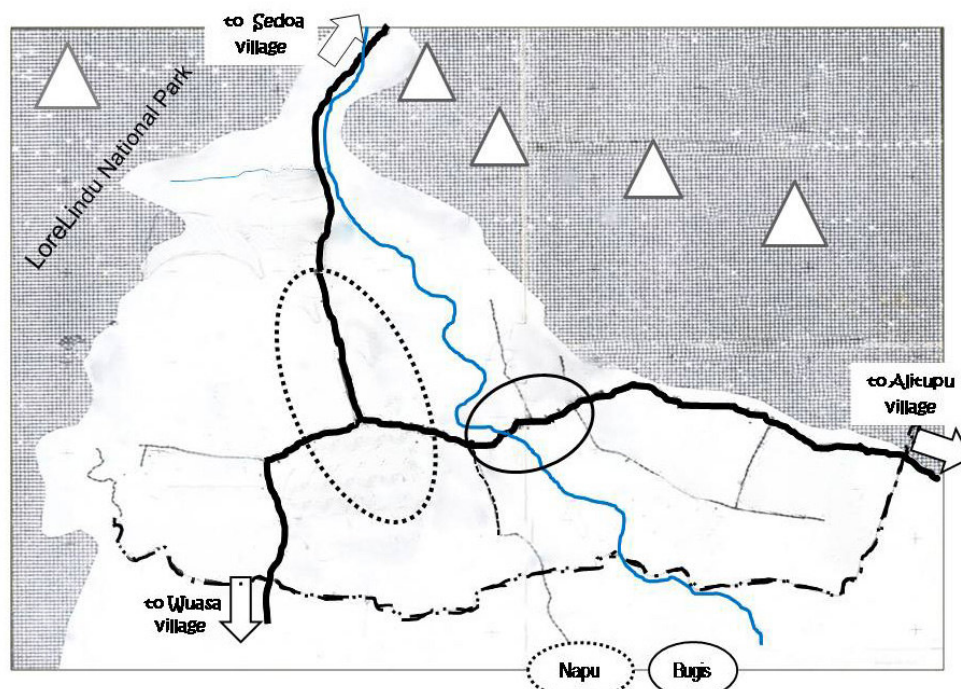


Figure 2. Settlements by Ethnicity, Watumaeta circa 1994

The early Bugis migrants to Watumaeta came in 1980s. A prototype of them was Abutata, a Sinjai Bugis wanderer who, prior to settle in Watumaeta, had worked in road construction and timber companies and has travelled to different places in South- and Central Sulawesi. In 1983 he started to work at the government's Agriculture Development Center (*Balai Benih Induk* or BBI), located at current Hamlet 3 to the East of village center of Watumaeta on the road to Alitupu. Hamlet 3 was still covered by dense forest with waterbuffaloes roamed wildly. Newcomers in those days may request plots of land to work on after reporting his/her arrival and intention to stay to *Kepala Kampung* (Village head), who then designated a location to be cleared and made into *kebun*. When Abutata were shown a vacant land which was formerly the *Kampung Bugis*² at southern side of

¹ Damar was taxed by the Dutch rulers, based on number of trees owned. However, actual numbers are difficult to verify since damar grow in remote hills. People did not open forest with damar trees to plant coffee because it caught fire easily and it is far away from kampung. Nonetheless, damar area is now within National Park. At the same time, there are more ways to earn income from forest, i.e. gathering rattan and cut woods of *leda* (*Eucalyptus deglupta*), *cempaka* (*Magnolia* spp), and *taiti*.

² *Kampung Bugis* is an area between Watumaeta and Wuasa in Popahudua, where, in around 1933 resided a group of Bugis whose leaders

village, he politely refused and instead requested *tanah hutan bebas* (free forest land), meaning the part of primary forest that was never being cleared by pioneer settlers. He figured out that the descendants of the pioneer settlers may, at some point of time, reclaim rights. The request was granted and Abutata cleared the forest area across Lairiang river to Northwest. He planted maize and kidney beans and after two successful harvests brought his family to Watumaeta. Later came the relatives and acquaintances from Sinjai, in South Sulawesi, his place of origin. His family helped newcomers with food and shelter, a form of *baku-baku jamin* (taking turns to support) to help new migrants survive until first harvest is produced. The houses of Abutata and his relatives became the first row of houses in Hamlet 3 (see Figure 2).

This type of 'invitation' for migrants from the Village Head has aided the early migrants, who were mostly Bugis¹ to settle and obtained agriculture land in Watumaeta in the 1980s. The Village Head's plan was to populate Watumaeta for politico-economic reason: village development allowances from the government and be categorized as 'full-fledged' villages (Smith and Bouvier 1993; see also Burkard 2008).

The accessibility of Trans Sulawesi highway further lured the Bugis migrants seeking for fertile agriculture land. Some of Bugis migrants came in groups, as the case of Arsyad and his followers from Pangkep, South Sulawesi. A Hamlet head in his place of origin, Arsyad went to Watumaeta in 1996 to scout out suitable areas for cacao and bought sizeable plots from the locals. He then returned with groups of about 40 relatives and neighbours who either do land-sharing with him to obtain land, or bought plots from him. These group of Bugis from Pangkep set up their own housing complex nearby their cacao plots in Hamlet 1.

By mid 1990s when most of *tanah hutan bebas* in Hamlet 3 has been cleared, and migrants had to have capital to buy land, the cacao boom started in upland. Initially, cultivation of cacao in upland were discouraged by Agriculture-extension officers because cacao is considered only fit to lowland. Yet, the new Bugis migrants who went upland and brought cacao with them found out that the crops thrives well in upland. Since then, the expansion of cacao into upland is unstoppable, so is the Bugis in-migration. This newcomer Bugis migrants were mostly settled in Hamlet 3 (see Figure 3), in the clearing area further South and Southeast to Tambua area that connected to the Bugis settlers of Alitupu and Wuasa. This large area of same-ethnic group settlement was proven advantageous when Poso conflict that began in 1998 started to mount. It became a safe-haven by size, an enclave in the mids of Christian-majority population.

In the year 2000, refugees from Poso conflict began to spill to surrounding regions (van Klinken 2007; McRae 2016)². As the Muslim refugees fled North to (Muslim majority) Palu, the Christian refugees went westward to (Christian majority) Tentena and Napu valley. In Napu, Watumaeta and Wuasa were the two villages with most refugees. The number fluctuates, as some of them returned to Poso when situation conducive, but more refugees come when another conflict erupted – which happened several times between 2000 to 2005 (McRae 2016). An informant in Watumaeta reported, about 70 families came after Poso conflict erupted in May 2000. The refugees were initially housed in *baruga* (Village meeting hall) or stayed at the house of their Napu relatives. As years went by, those who intent to stay were settled in Mangkapa at the Northern-most part of village in a church communal land (*tanah jemaat*) of what was formerly the coffee grooves of pioneer settlers. Although land for housing was available around the *baruga* area, it was considered too close to Bugis (Muslim) settlements of Hamlet 3.

was known as Dg.Nabi dan Dg.Malongi. These Bugis people moved out during or shortly after Japanese occupation, some go home to South, some migrates to Poso. There is no Bugis in-migrants between 1945s to 1980an.

¹ The name "Bugis" is used for all newcomers from South Sulawesi be it of Bugis ethnicity, or Makassarese.

² The ethno-religious Poso conflict started as a local brawl among drunk youth in December 1998. Yet it was the second violent conflict in April 2000, and especially after the Muslim killing in May 2000, that violence spread out of the city into the surrounding area. During this violence, an estimated 425,000 people were displaced (van Klinken 2007). An intermittent violence was still erupted until 2005 (McRae 2016).

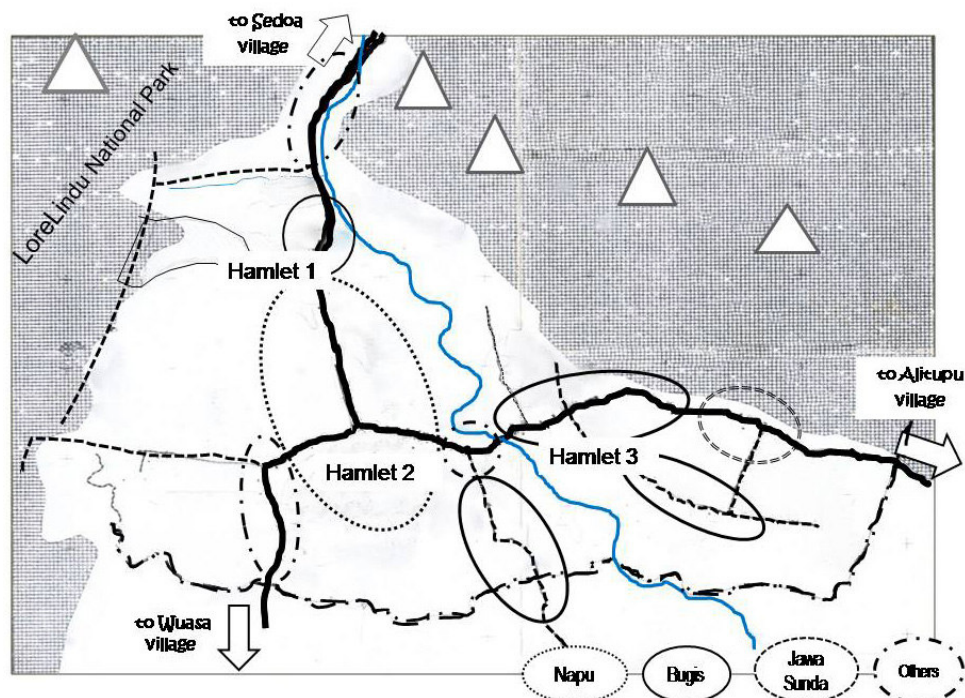


Figure 3. Settlements by Ethnicity: Watumaeta circa 2002-2004

With intermittent short-time out to Palu at the height of Poso conflicts, the Bugis cultivated cacao and settled. Their settlements were mainly along the Eastern-side of Watumaeta at Hamlet 3 (which in 2017 became Hamlet 3 and Hamlet 4), but as their number grows, the Bugis also establish permanent houses along the *Lorong* (alley), the smaller roads (called *Lorong* or alley) that grew to transport agriculture products from ricefields and dry-land gardens to the main roads. Currently, most of these *lorongs* has been asphalted.

6. From Cacao to Vegetable Gardens: the Waves of Javanese Migrants

At about the same time as second wave Bugis migrants in late 1990, came the Sundanese and Javanese¹¹ of Kebun Kopi, a protected forest area in the border of Palu- to Parigi Moutong regency in Central Sulawesi. Coming as transmigrants to Central Sulawesi in early 1980s, they were being settled in lowland Donggala. Being in upland, Kebun Kopi is considered a more suitable place for their farming skills, hence they cultivate vegetables and coffee. In late 1990s, however, after several landslides the government closed down the area, planned a reforestation and the farmers were expelled. Searching for new land, the Sundanese and Javanese of Kebun Kopi finally arrived in Watumaeta. The early Javanese migrants worked for, or rented plots of, BBI and settled in current Hamlet 4. Others rented land from two Javanese shopowners and agriculture extension workers along the main road to Wuaasa. In both groups, their houses are adjacent to their vegetable plots.

¹¹ The locals called both the Javanese and the Sundanese ethnics as *orang Jawa*, which means people from Jawa island.

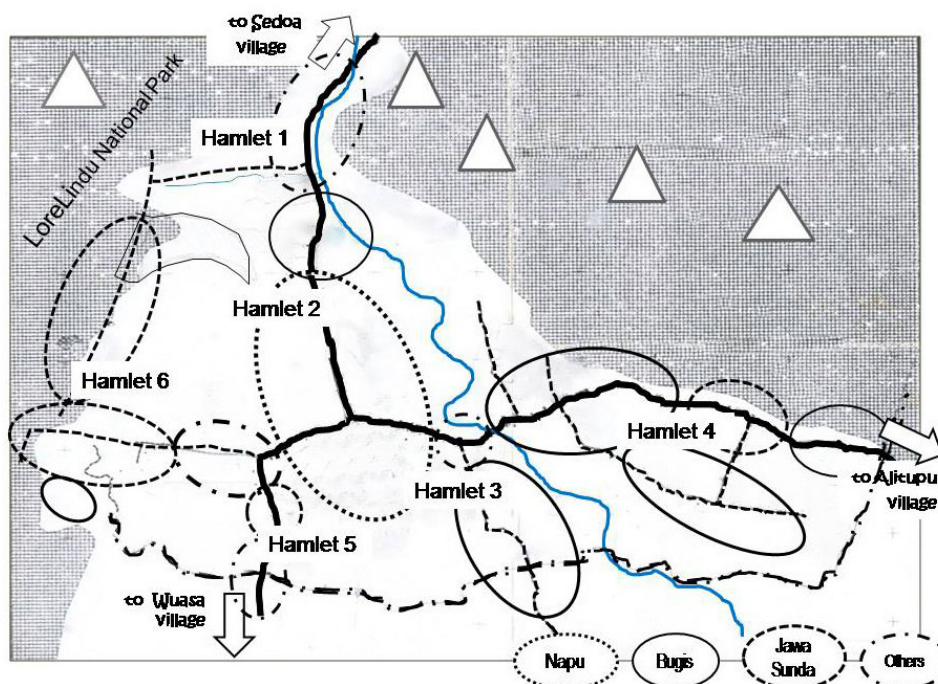


Figure 4. Settlements by Ethnicity, Watumaeta 2016-2017

By 2004 or 2005 one can guess cluster settlements by observing heaps of harvested products at where the *Lorongs* meet main roads: rows of cacao and corn sacks at of Lorong Arabika and Lorong Ekonomi in the eastern-side of the village, and heaps of cabbages or packs of tomatoes in Lorong Mandiri at the western-side of the village. As cacao is to Bugis, vegetables are to the Sundanese dan Javanese.

The Kebun Kopi farmers were the ‘pull’ factor for more migrants of same ethnics. The availability of fertile land for horticulture and the lure of fast cash were another factors. Peaked in 2011-2013, came the Sundanese and Javanese migrants from Lambunu of Parigi Moutong regency. Their parents were transmigrated to Central Sulawesi in 1980s and most were born in Central Sulawesi. For them, scarcity of agriculture land in the transmigration area is the push factor to migrate. These newcomers cultivated the area further West of Lorong Mandiri, expanding the vegetable plots of farmers from Kebun Kopi, and also open plots to North along the flatland of *powanuangaa*, which happens to be the border of- and inside the Lore Lindu National Park. Settled mostly close to their plots, a row of houses forms alongside Lorong Mandiri and Lorong Lestari – the latter being the new *Lorong* that connects South to North Lorong Mandiri to Salibu area. Further West, the Lorong forks into smaller road named after the ethnic majority of its inhabitants: Lorong Jawa, Lorong Makassar, etc.

7. Ethnicity and Settlements: a Weak Social Integration

Administratively, from the former 3 hamlets of 10 RT (=neighbourhood unit) in 2004 the village has grown into 6 hamlets of 17 RT in 2017. Comparing Figures 2, 3 and 4, one can clearly observe that the development of settlements in Watumaeta is defined by its migrants – first the Bugis migrants to the East of village, then the Javanese migrants to the Northwest.

Table 1. Household by Ethnicity, Watumaeta 2017

Hamlet	RT	Ethnicity				Total Households
		Napu, Lindu (%)	Bugis (%)	Java, Sunda, Bali (%)	Others (%)	
1	1-3	33,5	28,3	9,2	29,0	152
2	4-5	74,0	9,1	3,9	13,0	77
3	6-7	43,8	32,1	0,9	23,2	112
4	8-11	1,4	78,1	17,8	2,7	146
5	12-14	0,0	16,7	71,9	11,4	96
6	15-17	0,0	24,7	74,1	1,2	166
Total		21,2	34,3	31,5	13,0	749

A comparison of hamlets’ population by ethnicity in Table 1 indicated that no hamlet are ethnic exclusive. However, four hamlets have one ethnic majority (over 70 percent): Hamlet 2 with the Napu, Hamlet 4 the Bugis, Hamlet 5 and 6 the Sundanese-Javanese. Two hamlets, Hamlet 1 and Hamlet 3, are the more multi-ethnic settlement. A closer observation indicates clustering of ethnicity occurs inside any hamlet: in Hamlet 1 the Poso former refugees settled at Mangkapa (RT 1) in northernmost part of village, the Bugis in RT 2, and the Napu is

closer to village center (RT 3). In Hamlet 3 the Napu lives closer to village center (RT 6), the Bugis stayed adjacent to their cocoa grove at Lorong Ekonomi (RT 7). Among the Bugis ethnic, those at Hamlet 1 are of Pangkep; those at Hamlet 3 came mostly from Sinjai. At Hamlet 4 the Bugis from Sinjai settled mostly along the main road closer to Lairiang river. Bugis from Soppeng and Wajo stayed further at Lorong Arabika and Bugis from Sinjai and Gowa stayed farthest East, close to Alitupu border. The fact that each sub-ethnic groups established its own cluster of settlements can sociologically be interpreted as a not integrated community.

A comparison through time and location of settlement further indicated the evidence of clustering. The locals of Watumaeta, the Napu or Pekurehua people settled at the village center – as in the past, as is now. The Poso refugees flocked together in Mangkapa area of Hamlet 1, in the designated *tanah jemaat* that was given by the village and construction of houses (in 2001-2002) was funded by an international NGO. Their place, though partially mediated by Arsyad and his Bugis Pangkep houses, were in the same area with the Christian Napu people.

The Bugis settlements started at the East of village center and expanded further East and Southeast. This establishment of settlement not only followed the Bugis pioneer settlers who choose the unclaimed land (*tanah hutan bebas*) but also set up a larger Bugis community of two other villages, Wuasa and Alitupu. At its center was the 1930s former Kampung Bugis, indicates a superimposition of landscape. As Bugis migration peaked at around Poso conflict, this is also a good strategy: creating a Muslim enclave amidst the Christian population. At the same time, as cacao does not requires daily caring, the Bugis have the option to live at a distance away from their cacao plots. This house – garden distance were less for the late-comer Bugis migrants, as is seen in Lorong Ekonomi and Lorong Arabika.

The early housing of Sundanese-Javanese migrants were established in the land adjacent to their vegetable plots, in the rented land of the Agriculture Center (*Balai Benih Induk/BBI*). The later Sundanese-Javanese migrants settled alongside border of village to National Park in the West, expanding further West and to the North. Choice of crops that require intensive care and limited availability of land affect this close distance of house-garden establishment.

The establishment and develop of settlements in Watumaeta into the current structure (Figure 4) indicated a social relation that is not fully integrated. Ethnic and sub-ethnic groups tend to form their own cluster, the development of clusters is determined by choice of location of early settlers and choice of crops, and at some points of history, during the ethno-religious conflict of Poso this separate Muslim – Christian clustering was justified. Hence, social solidarity is likely to work exclusively among the members of each ethnic groups, especially in the unit of settlement cluster.

8. Concluding Remarks

As within thirty years the population of Watumaeta increased by nine-folds and currently two-third of them are migrants, migration is an important factor of village transformation to focus on. Over the span of thirty years, waves of migration established and develop settlements and transform the village. The Watumaeta case shows that establishment and develop of settlements is not only affected by size and period of migration, but also by geography, local history of sites, religious affiliation, as well as choice of crops. Ethnic groupings in migrants' settlement is defined by the period of arrival as well as the internal and external forces at the time of their arrival. Following settlements already set by predecessors. The refugees that were given housing plots. The Bugis that flock together during tense conflict situation. And riding the waves of village's expansion area for agriculture crops alongside border of village to National Park. This observation indicates that there is ethnic groupings in settlements, and cluster of settlements within mixed-ethnic hamlets that sociologically, can be inferred that social solidarity is into own ethnic groups. As such it gives indication of a community that is of weak social integration.

Three precautions, however, merit consideration. First, the spatial integration requires complementary research of social integration to fully understand the situation on the ground. Therefore, a further investigation to observe patterns of social interaction is necessary to develop a more nuanced understanding of micro-dynamics of social interaction. Second, research on a wider landscape – several villages, or regions – may be required to give a more contextualized understanding of the factors affecting structure of settlements. Third, it is suggested (Weeks 1978; Li 2007; Massey 2008) that the flocking together among migrants of same background is a picture of every initial stage of migration, a reaction to the uprooted situation, and as such, it is transitory. With interaction that expand social networks, this situation can be overcome and one might observe in the near future of a more mixed structure of settlement in Watumaeta.

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